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Editorial introduction to the special issue on stress resilience

The journal *Neurobiology of Stress* was launched to address the needs of an expanding group of researchers investigating the neural underpinnings of the stress response, neural plasticity and adaptation as consequences of stress and the translation of these consequences to neuropsychiatric disease in humans. This growth of stress research was driven by an increased realization that exposure to adverse events is causal to many chronic debilitating neuropsychiatric diseases. The significance of stress in human disease becomes magnified when considering evidence that it bridges neurobehavioral symptoms with peripheral symptoms such as obesity, irritable bowel and immune dysfunction, resulting in the complex medical-psychiatric co-morbidities that have become prevalent in our society.

In considering a topic for the inaugural issue of the journal we took note of the recurring theme in the stress neurobiology literature of individual variability in responses to stressors and their consequences. Much stress research has focused on identifying factors that render an individual vulnerable to the negative consequences of stressor exposure. The rationale is that by understanding mechanisms underlying vulnerability, susceptible individuals can be identified and vulnerability can be countered or attenuated. More recently, the concept of stress resilience has been embraced. Although inversely related to vulnerability, resilience is not simply its opposite as many examples presented in the following reviews in this issue illustrate. They discuss individual attributes that potentially confer resilience such as genetic make-up, developmental stage and sex, environmental factors including prenatal environment, social environment, and modifiers such as coping style, controllability, exercise and quality of sleep. The reviews raise a number of important questions that can guide future research: Do different resilience factors converge on common mechanisms? Does resilience generalize across stressors? How long does resilience endure? Can the brain's capacity for structural and functional plasticity be enhanced so as to compensate for and thereby alleviate the effects of adverse events earlier in the life course? Do our animal models of stress resilience translate sufficiently to allow us to make predictions in humans?

Also emerging from these reviews is the concept that stressors are catalysts for brain evolution. Although this can have negative consequences that are expressed as dysfunctions and disease, positive adaptations can arise that protect against future traumas. The challenge lies in determining how we can take advantage of our knowledge of resilience to make the most of adversity.

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